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Status of State Involvement in the Superfund Program

FY 80 to FY 89

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UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
Office of Emergency & Remedial Response
Hazardous Site Control Division
Washington, D.C. 20460

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STATUS OF STATE INVOLVEMENT IN THE SUPERFUND PROGRAM

FY 80 - FY 89

When Congress first enacted the Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA) in 1980, it provided EPA and the States with the authority and approach for responding to uncontrolled hazardous waste sites. In 1986 Congress amended CERCLA and passed the Superfund Amendments and Reauthorization Act of 1986 (SARA), which was distinguished from the original law in its emphasis on State involvement in virtually every phase of response. This report provides a concise summary of State involvement throughout the Superfund process since the passage of CERCLA, as well as an historical perspective on program milestones and issues that have influenced State involvement.

CERCLA, as amended, authorizes the Federal Government to assume lead responsibility for cleanup at a site (Federal-lead), or to transfer the necessary funds and management responsibility to a State when it has the technical and administrative capabilities to lead all or part of a Superfund response (State-lead). Section 121(f) of the law mandates that EPA provide "substantial and meaningful involvement by each State in initiation, development, and selection of remedial actions to be undertaken in that State." These remedial actions involve a full range of activities undertaken at hazardous waste sites to abate or permanently clean up waste threatening human health and the environment. The intent implicit in the statute is to strengthen the EPA/State partnership in the Superfund program. Over the past four years, EPA has made a concerted effort to provide States with a greater role in the program, increased responsibility for cleanup decisions, and additional funding.

Involvement by non-Federal entities in Superfund response extends to States, political subdivisions, and federally recognized Indian Tribes. Provisions for the involvement of these parties are contained primarily at Sections 104, 121, and 126 of CERCLA, as amended; Subpart F of the National Oil and Hazardous Substances Pollution Contingency Plan (NCP) (40 CFR Part 300); and the administrative regulation for Cooperative Agreements and Superfund State Contracts for Superfund Response Actions (40 CFR Part 35 Subpart O). It should be noted, that the discussion here is focused on State involvement in the Superfund program.

During the course of implementing CERCLA, EPA is often asked questions on what State involvement in the Superfund program has been to date. The purpose of this report is to address many of these questions by presenting detailed information on State Superfund activities. These include participation in site-specific activities during each phase of response as well as in non-site-specific activities that are essential to the functioning of State Superfund programs. To assess the changing roles played by States, current as well as historical levels of State participation are presented in this document. This information provides an indication of the States' abilities to assume responsibility and input to future directions in State involvement. In A Management Review of the Superfund Program (The Superfund 90-Day Study), the Agency's Administrator identified the need for EPA and States to develop joint short- and long-term strategies to enhance State program capability, improve State performance at State-lead Superfund sites, and foster State remedial activity at sites not on EPA's National Priorities List (NPL). This

report provides an historical perspective with which to explore future implementation strategies for EPA and States, and to respond to the Administrator's recommendations in the 90-Day Study.

The report is organized into the following discussions:

- The overall framework for the study, including the roles and responsibilities of States considered in the report and the sources of information that were used
- An overview of the Superfund process and the phases of response
- An historical perspective on State involvement in each phase of response at Superfund sites
- A summary of State involvement in non-site-specific activities, specifically those funded through the Superfund Core Program
- Summary and future use of information gleaned through this analysis.

Throughout the report charts and graphs summarize the patterns of State-lead involvement and broader-based program activities related to these activities. Each chart and graph is accompanied by a set of bullet points that briefly describes the importance of the graphic, the historical context including program milestones that may have impacted State involvement, and interpretations of the data, as appropriate. In most cases, data used in this report were extracted from EPA's official Superfund database: the CERCLA Information System (CERCLIS) as of October 1989.

I. FRAMEWORK FOR THE STUDY

A. State Roles in Response

Many different parties may assume the lead for all or part of a Superfund response action. Historically, EPA has been the lead agency for the majority of Fund-financed response activities, however, other Federal entities such as the U.S. Army Corps of Engineers and the Federal Emergency Management Agency have taken the lead for portions of the response on a regular basis and have worked with EPA to ensure that appropriate remedies are implemented. States, political subdivisions thereof, and federally recognized Indian Tribes can take the lead and have been increasing their Superfund participation in this capacity over time. Finally, Responsible Parties (RPs) for a site can be compelled under both Federal and State statutes to assume responsibility for cleanup.

This report focuses on State-lead activities, which can include an array of responsibilities. State activities can include both direct, site-specific response or oversight of RP cleanup actions. Each of these activities may be Fund-financed. In a limited number of cases, there have also been mixed funding scenarios involving work performed by a RP. Throughout this report, references are made to State, Federal, RP and other leads. This report has defined the term "lead agency" as the entity responsible for the activity when it was completed. Activity takeovers in which lead responsibility has shifted from one entity to another are not distinguished. Exhibit 1 summarizes the types of lead

Exhibit 1

CERCLIS Codes to Track Lead Responsibility

LEAD	CODE	DESCRIPTION
State	S	• Fund-financed response actions • PA,SI, RI/FS, RD, RA and removal activities
	SN	• Non-Fund-financed response actions • State-funded PA, SI, RI/FS, RD, RA and removal activities
	SE	• Fund-financed response actions with concurrent enforcement activities by the State • Enforcement activities initiated by a State using its own enforcement authorities such as RI/FS and RD/RA negotiations and administrative order issuance
	SR	• Non-Fund-financed, State oversight of RP actions • State has administrative or judicial order requiring RPs to conduct response. • No Federal concurrence on the remedy
	MR	• Pre-authorization Mixed Funding (Fund/Responsible Party) work performed by PRP under a Federal decree with an agreement that the Fund will provide reimbursement to the PRP (applies to response events).
Federal	F	• Fund-financed response actions • PA, SI, RI/FS, RD, RA and removal activities
	FE	• Fund-financed enforcement activities with concurrent activities by EPA/DOJ • Enforcement activities initiated by EPA such as PRP searches, RI/FS and RD/RA negotiations and cost recovery activities
	EP	• EPA in-house actions
Responsible Party	RP	• Non-Fund-financed response actions • Activities performed by the RP under Federal order
Others	OH	• All other Fund and Non-Fund-financed activities • Includes entities such as other Federal agencies, Federal facilities, the U.S. Coast Guard, and the U.S. Army Corps of Engineers.

that are represented throughout this report when referring to State, Federal, RP or other lead agencies and the codes in CERCLIS by which these activities are tracked.

State involvement in the Superfund program is not limited to State-lead response actions but also includes State resources and efforts dedicated to administering State Superfund programs and to support agency activities. State involvement in the Superfund Core Program is one measure of State involvement in non-site-specific administrative activities that enable States to be active in site-specific response. State participation in the Core Program is also portrayed in one section of this report. This report does not address State involvement in a support role given the scarcity of information available and the necessary limitations of the study.

B. Sources of Information

Information on State involvement in the Superfund program was gathered from many different sources in compiling this report. Multiple EPA databases were assessed to determine whether they contained appropriate information on State activities; Federal statutes and regulations were reviewed to consider their impacts on State initiatives; and studies conducted by offices within EPA and outside organizations were carefully assessed. Each of these told one part of the story of State involvement in the Superfund program, and provided input to this assessment of the status of State activities.

1. Agency Databases

Four EPA databases were investigated as sources of information on State involvement in Superfund cleanup: the Grants Information and Control System (GICS); the Regional Automated Grants Document Subsystem (RAGDS); the Integrated Financial Management System (IFMS); and the official Superfund database, the Comprehensive Environmental Response, Compensation, and Liability Information System (CERCLIS). The purpose of each database and its relevance to this effort are described below.

GICS tracks the processing of all EPA grants applications, prospective wastewater treatment construction projects, and active grants projects in the Agency. GICS is an assistance agreement database tracking obligations and general project information. It also tracks major changes in projects, such as extension of time, increased funding, or changes in the scope of work, though these are not coded by phase of response. GICS data were used to help identify funding levels of Cooperative Agreements (CA) for States discussed later in this report.

RAGDS, a subsystem of GICS, downloads grants record information stored in GICS to a personal computer environment so that a user can easily merge information into text. RAGDS did not provide data for use at this juncture.

IFMS is the official information system used for EPA's accounting and financial reporting activities. In this report, IFMS data on Federal funding to States for Superfund activities was collected and compared with CERCLIS and GICS data to help assess the total funding to States through Superfund Cooperative Agreements.

CERCLIS provides detailed information on removal, remedial, and enforcement actions taken by States, EPA, RPs, and other entities involved in the Superfund program. CERCLIS currently serves two purposes: it contains an inventory of potential hazardous waste sites and serves as the vehicle for Regional reporting to Headquarters on the status of major cleanup activities at each site. Activities tracked in CERCLIS include: Preliminary Assessment (PA), Screening and Listing Site Inspections (SSI and LSI; herein referred to as SI), Remedial Investigation/Feasibility Study (RI/FS), Remedial Design (RD), and

Remedial Action (RA). CERCLIS also tracks data on awards to States through Superfund Cooperative Agreements to conduct these activities. After comparing IFMS, GICS, and CERCLIS information on funding to States, CERCLIS data were determined to be the most complete and therefore are reflected in this report. Currently, efforts are underway to improve the completeness of information that is tracked on these awards and the consistency of information among these databases.

CERCLIS tracks activities by start and completion dates. A start date demonstrates that funding has been set aside for the activity, but, does not guarantee that any action has been initiated. Completions, on the other hand, reflect accomplishments in meeting targets established as part of EPA's Superfund Comprehensive Accomplishments Plan (SCAP). The SCAP is the Agency's official planning tool used to determine the level of funding for each Region, a decision that is based on the number of planned completions for each Fiscal Year (FY).

The information in this report focuses on State-lead completions to highlight State accomplishments and is based primarily on CERCLIS data from FY 80 through FY 89. Reviewing the magnitude of ongoing activities in each year, however, provides insight to the resource demands on State programs at a single point in time. Ongoing activities can be calculated using a statistical reporting language and CERCLIS data and are shown in one chart to depict the level of State involvement in the implementation of remedial response (e.g., RI/FSs, RDs, and RAs).

CERCLIS became EPA's official tracking system for Superfund activities in FY 87. In the early years of the program variations in Regional input and modifications to the system impacted the type and quality of CERCLIS data. The integrity of CERCLIS data has, in fact, improved significantly since those early years. The CERCLIS Management Council (CMC) was established to help coordinate the efforts of CERCLIS users and to make recommendations on proposed system changes and enhancements. The CMC's objectives for enhancing data quality has been twofold: verify historical data and encourage effective use of the data to improve future data integrity. Although data quality is a priority, there are still inconsistent input methods by the Regions that should be considered when drawing conclusions. To ensure that more recent data accurately portray progress in Superfund implementation, data quality reviews are now being performed. CERCLIS, nevertheless, provides the most comprehensive site-specific information available on Superfund response activities.

2. Federal Statutes and Regulations

It is important to consider the statutory mandates and implementation guidelines that have directed State Superfund programs when looking at the status of State involvement. Therefore, in preparing this report, a review was performed of the relevant statutory and regulatory requirements to understand the historical, current, and future issues facing the States. The overall goals and objectives for State involvement in responding to uncontrolled hazardous waste sites were established by Congress in CERCLA, as amended, and impacted in some areas by the requirements of the Resource Conservation and Recovery Act (RCRA). The structure and function of State programs working to meet these objectives has been influenced by regulations such as:

- "The National Oil and Hazardous Substances Pollution Contingency Plan" (40 CFR Part 300)
- The administrative regulation for "Cooperative Agreements and Superfund State Contracts for Superfund Response Actions" (40 CFR Part 35 Subpart O)

- "The Uniform Administrative Requirements for Grants and Cooperative Agreements to State and Local Governments" (40 CFR Part 31).

State accomplishments and the level of State participation in Superfund cleanups must be considered in the context of these and the various other regulations that have impacted their activities over time.

3. Sources of Information Beyond EPA

Other Federal offices such as the General Accounting Office (GAO) and the Office of Technology Assessment (OTA) have performed independent reviews of EPA's Superfund program. In addition, several studies have been conducted by State representatives through the Association of State and Territorial Solid Waste Management Officials (ASTSWMO). Each of these studies looked at different questions, such as what is the actual number of sites requiring response, what mechanisms are in place for States to respond at NPL versus non-NPL sites, and how might changes in Federal policy impact State involvement. Data gathered in these efforts and the conclusions made in these studies were taken into account in assessing the overall status of State involvement in the Superfund program in this report. (See Appendix A for a complete reference list.)

II. OVERVIEW OF THE SUPERFUND PROCESS

A. Identifying Sites

Since 1980, more than 30,000 hazardous waste sites have been reported to EPA and entered into the inventory of potential Superfund sites, which is tracked in CERCLIS. The requirements of the NCP contained at 40 CFR 300.405 describe the various methods for discovering releases including: normal reporting requirements under CERCLA, investigations by government authorities, notifications by Federal or State permit holders, surveys or incidental observations, and submissions of citizen petitions.

The 30,000 CERCLIS sites have been identified primarily as a result of the Agency's reporting requirements under RCRA and CERCLA. Many of these were identified as a result of the provisions of CERCLA Section 103(c), which required all past and present owners and operators of facilities where hazardous substances were stored, treated, or disposed of, to notify EPA by June 1981 of the existence of such facilities and of any known, suspected, or likely releases of hazardous substances at those facilities. EPA received about 5,000 reports of such facilities that were entered into the site inventory.

CERCLA created a tax on the chemical and petroleum industries for implementing the Superfund program that was to be accumulated over a five-year period, collection of which began in 1981. However, in the early years of the program the financial base for conducting pre-remedial activities was limited. As a result, delays were experienced in the discovery, inspection, and evaluation of hazardous waste sites. To address these delays, Congress added Section 3012 to the 1980 amendments to RCRA, requiring each State to compile an inventory of all hazardous waste sites within the State. Although no appropriation was made until September 30, 1982, Congress authorized ten million dollars from the Fund to implement Section 3012. This one-time appropriation assisted States in completing a site survey and inspection at potential Superfund sites. In this one instance, EPA waived any cost-sharing responsibilities for the States, believing that any cost share would be difficult for the States to obtain in light of the relatively short time frame in which financial assistance had to be allocated. Together, these statutory authorities have provided a basis for EPA's efforts to define the number of hazardous waste sites that should be

investigated and evaluated for CERCLA-funded response. Chart 1 summarizes the steady progress EPA has made in identifying these sites; for example, EPA received over 3,000 notifications of hazardous substance releases in 1985 alone.

To gain a clearer understanding of the types of sites in the CERCLIS inventory and the most successful means of identifying these sites, EPA's Site Assessment Branch, within the Office of Emergency and Remedial Response, has been conducting a CERCLIS Characterization Study involving a review of all sites discovered and placed in inventory. The study includes 11 reports which review sites in CERCLIS: ten Regional reports and one national report. The study indicated that 32% of the sites identified in the CERCLIS inventory were a result of State and local inspection and assessment programs. It also found that a State was the owner/operator at only 1.3% of the sites at the time of its contamination. Further investigation on the CERCLIS universe is currently being performed as part of this study and additional conclusions are expected to be released in early 1990. In addition, a similar study is planned to assess the composition of NPL sites.

Although the CERCLIS inventory of sites totals roughly 30,000, several organizations have developed different figures as depicted in Chart 2. The GAO, OTA and ASTSWMO have projected the total number of hazardous waste sites to range from approximately 8,000 to 425,000. Each study has a slightly different focus. GAO considered the total universe of hazardous waste sites; OTA considered the number of both hazardous and non-hazardous waste sites; and ASTSWMO looked at the potential number of NPL sites in the future based on known and suspected releases. These studies reveal that the extent of the nation's potential hazardous waste problem may be larger than is currently indicated by EPA's inventory of sites in CERCLIS. The considerations taken into account in each study and the size of the hazardous waste universe projected by each are summarized in Exhibit 2 and are discussed in more detail below.

1. General Accounting Office

In 1987, GAO reviewed EPA's study for Congress, Extent of the Hazardous Release Problem and Future Funding Needs, CERCLA Section 301(a)(1)(c) Study and other EPA reports to evaluate independently the number and types of sites that may need to be considered potential hazardous waste sites. On the basis of EPA and other Federal agency data, GAO estimated that there may be 130,300 to 425,000 potential hazardous waste sites that qualify for inclusion on the CERCLIS inventory.

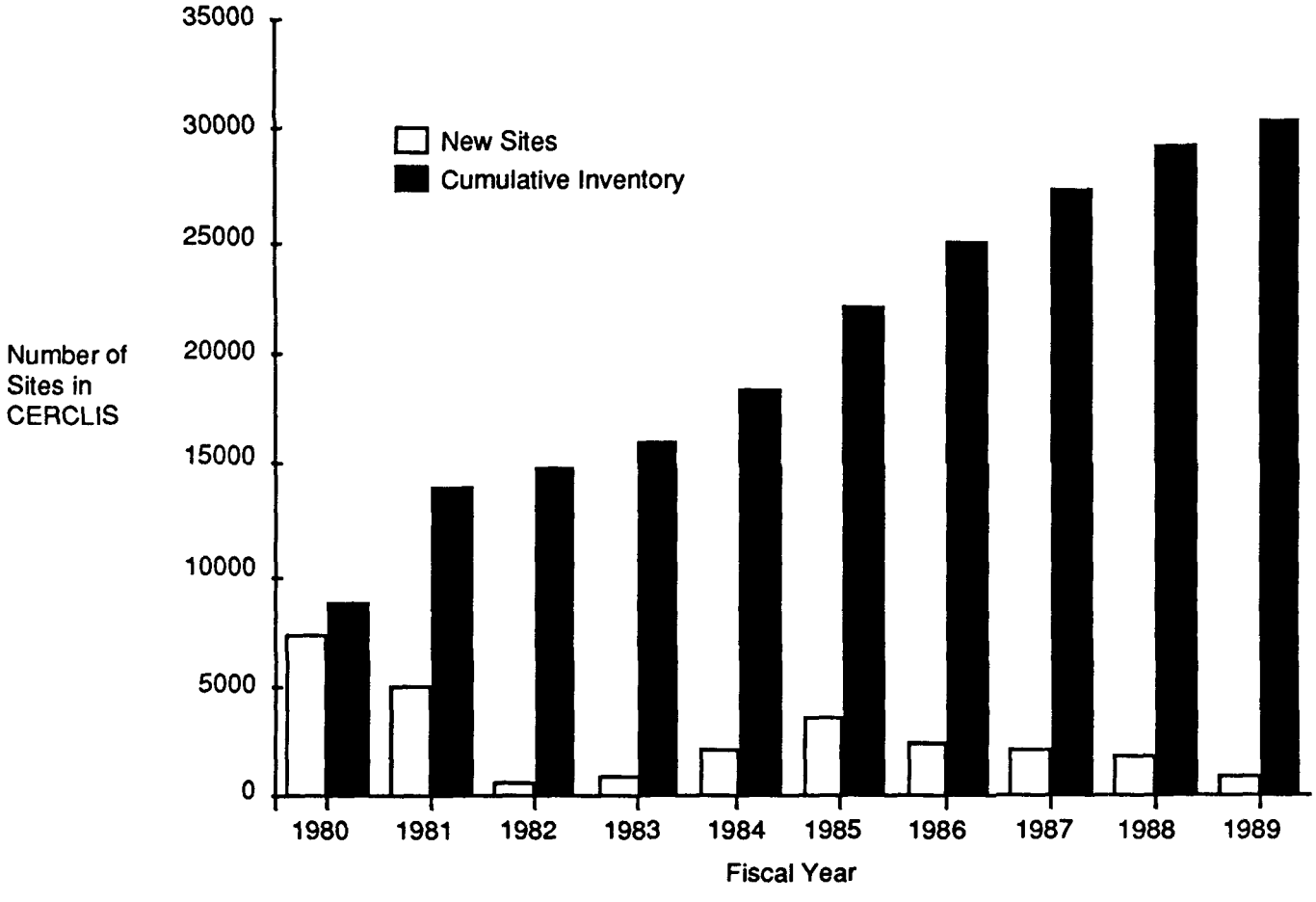
An August 1989, report by GAO, State Cleanup Status and Its Implication for Federal Policy, acknowledged that States face a complex cleanup job at thousands of non-CERCLA sites. States reported to GAO that they have completed approximately 7% of all cleanups or 760 sites of their approximately 28,000 known or suspected hazardous waste sites. GAO recommended that EPA reexamine the nature, form and extent of EPA's technical assistance to States and EPA Regions and implement a strategy for more effective delivery of such assistance. To promote protective, consistent cleanups of Superfund sites, GAO also recommended that any deferral policy adopted by EPA include requirements for State eligibility, that State cleanups be at least as stringent as EPA requires, and that EPA monitor State cleanups of sites deferred from placement on the NPL.

2. Office of Technology Assessment

OTA examined the universe of operating RCRA hazardous waste facilities as well as EPA's site inspection (SI) process to estimate the number of sites that could become future NPL sites in its 1985 report Superfund Strategy. OTA believes that at least 5,000 of the 621,000 operating and closed solid waste facilities in this country, such as sanitary and municipal landfills, may qualify for CERCLA-financed cleanup. In addition, OTA found

Chart 1

Total CERCLIS Inventory of Sites has Grown Substantially



- This chart illustrates both annually and cumulatively, sites with a discovery date in the CERCLIS inventory
- From 1980 to 1989, the total number of sites in CERCLIS has more than tripled
- Initial fluctuations in the number of sites in CERCLIS resulted from:
  - Statutory requirements passed in 1980 requiring owners and operators to notify EPA of possible releases (CERCLA, Section 103 (c))
  - Only sites named as top priority sites by States were included from FY 80 - FY 82
  - Reductions in the cumulative CERCLIS inventory of sites following periodic screening to eliminate sites that did not meet CERCLIS criteria
  - Implementation of Section 3012 in RCRA in FY 83, requiring States to bring additional sites to the attention of EPA for placement on the hazardous waste site inventory
- An increasing need for pre-remedial activities by States and EPA has accompanied this growth in the CERCLIS inventory.

Chart 2

Perspectives Differ on the True Number of Hazardous Waste Sites

GAO: 130,000 - 425,000 potential sites in the U.S.[a]
ASTSWMO: 22,881 suspected sites nationwide[b]
ASTSWMO: 7,900 confirmed sites in 46 States[b]
OTA: 8,000 additional potential NPL sites[c]
EPA: 31,225 sites in CERCLIS
EPA: 1,224 NPL sites

- There are many different perspectives on the number of hazardous waste sites that exist; therefore, the potential burden of hazardous waste sites on States can be interpreted differently by various groups
- This report focuses on activities within the EPA universe of National Priority List (NPL) sites tracked in CERCLIS
- The number of NPL sites reflect EPA's proposed NPL Update # 9, as published in the Federal Register July 1989, the last published NPL for FY 89.

References:
a: "Extent of the Nation's Hazardous Waste Problem is Still Unknown," GAO, December 1987.
b: "State Programs for Hazardous Waste Site Assessment and Remedial Action," ASTSWMO, June 1987.
c: "Superfund Strategy," OTA, April 1985.

Exhibit 2

Estimates of Potential Hazardous Waste Sites Vary Among Organizations

The *General Accounting Office* developed an estimate of potential hazardous waste sites through their review of:

• Non-hazardous RCRA Subtitle D facilities	70,419-261,930
• Hazardous RCRA Subtitle C facilities	818 (a)
• Mining waste sites	22,339
• Underground Storage Tanks (Petroleum)	10,820
• Pesticide-Contaminated Sites	3,920 (b)
• Federal Civilian facility sites	1,882 (c)
• Federal Defense facility sites	3,526
• Radioactive releases	300
• Underground injection wells	13,839-117,368
• Town gas facilities	1,502
• Wood preserving plants	975
TOTAL	**130,340-425,380**

(a) Project failures of facilities under RCRA financial assurance requirements.
(b) Number of sites in six States where pesticide levels are known to exceed State standards.
(c) Includes 171 municipal landfills or dumps that also may be included in the estimates of RCRA Subtitle D facilities.

The *Office of Technology Assessment* examined hazardous & non-hazardous sites and the SI process to assess future sites that may require cleanup including:

• Solid but not hazardous waste facilities governed by Subtitle D of RCRA	5,000
• Hazardous waste facilities regulated under Subtitle C of RCRA	1,000
• Sites in EPA's inventory of hazardous waste sites that may warrant cleanup with a revised SI procedure	2,000
TOTAL	**8,000**

The *Association of State and Territorial Solid Waste Management Officials* conducted a survey of State hazardous waste programs identifying:

• Hazardous waste sites with known releases	7,900
• Hazardous waste sites with suspected releases	22,881
TOTAL	**7,900-22,881**

that at least half (or 1,000) of the approximately 2,000 operating hazardous waste facilities that are, or should be, subject to RCRA groundwater protection standards will become NPL sites. After reviewing EPA's SI process, OTA suggested that changes to it could merit an additional 2,000 sites requiring cleanup. Therefore, OTA believes an additional 8,000 sites may merit cleanup, resulting in an NPL of about 10,000 sites.

In 1989, OTA published a report which reiterated its concern that cleanups occurring outside of Superfund, under other Federal and State programs, may one day result in a new class of contaminated sites for which cleanup has been mismanaged. In the report, Coming Clean, Superfund Problems Can Be Solved, OTA suggests coordinating actions among cleanup programs by establishing national cleanup standards and a Federal site discovery program. OTA also identified widespread interest in stronger enforcement to encourage financing of cleanups by Responsible Parties.

3. Association of State and Territorial Solid Waste Management Officials

ASTSWMO's 1987 survey of State Superfund program officials found 7,900 sites with known releases in 46 States, with an average of 172 confirmed sites per responding State. These included both NPL and non-NPL sites. Ninety percent of the currently confirmed 7,900 hazardous waste sites are not on the NPL and, therefore, not currently eligible for Federal funding. Among the 7,900 sites, there were leaking underground storage tanks, surface impoundments, solid waste landfills, and industrial or commercial facilities. States and/or Responsible Parties must address these sites. ASTSWMO found an additional 22,881 sites with suspected releases, in 40 States with an average of 572 per responding State. According to the States, approximately 40% of all sites will need cleanup in the future. States estimated that for every known site, there are three suspected sites. As more and more of these are found, the CERCLIS inventory will grow increasing both the demand for resources and the need for EPA/State coordination in response.

Identification of hazardous waste sites is an important issue that concerns many groups within as well as outside the Agency. EPA recognizes these differing interpretations of the number of hazardous waste sites and continues to strive for a thorough Superfund site identification and evaluation process. What follows is a description of the Superfund response process following site identification.

B. Assessing the Site

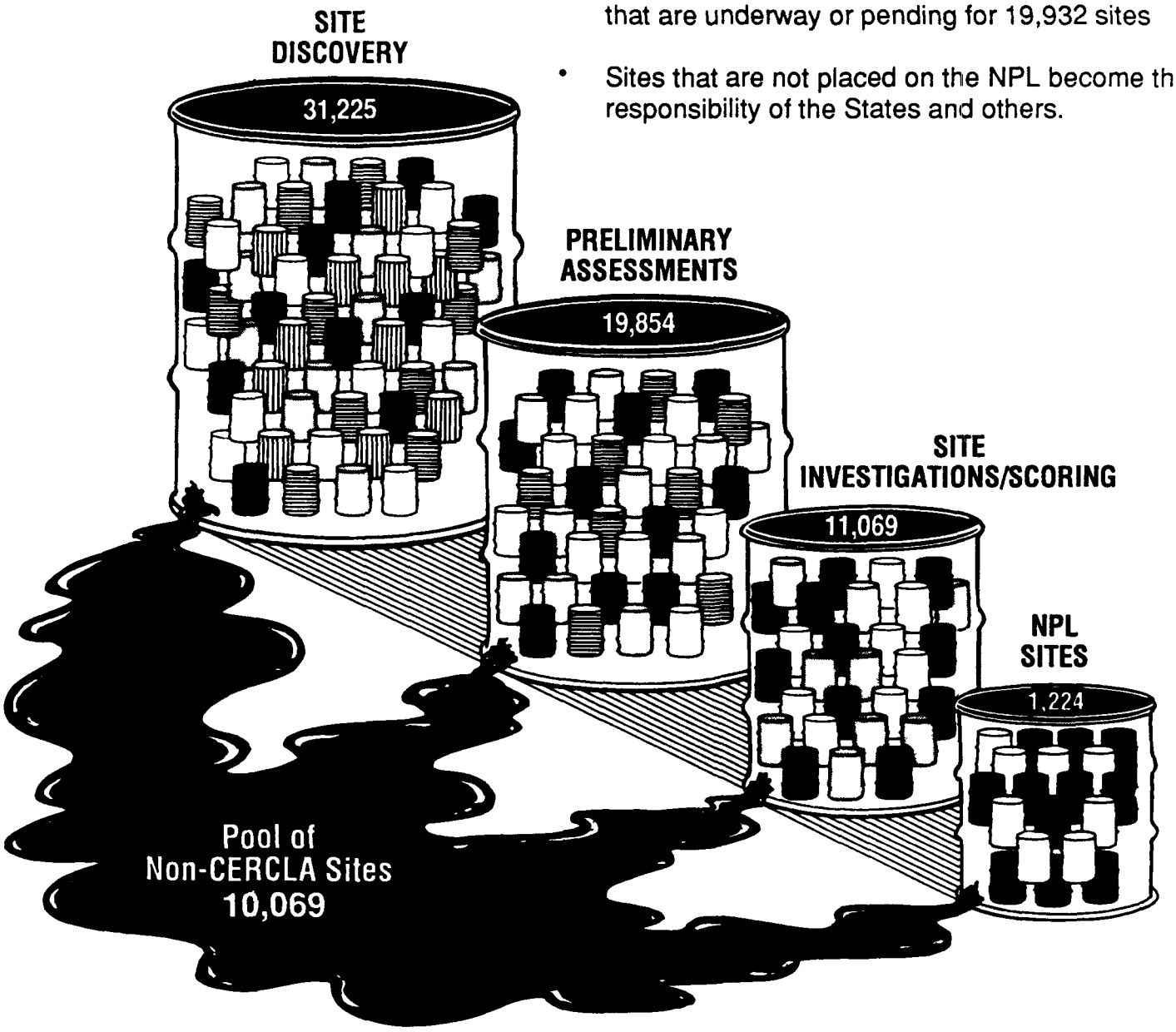
The response process established by the NCP for handling hazardous waste problems is triggered by the discovery of hazardous wastes sites. Site-specific response begins with evaluating, on a preliminary basis, the danger posed to human health and the environment by the site. EPA, or a State that takes the lead under a Cooperative Agreement with EPA, determines whether hazardous substances at the site are uncontained and/or contaminating soil, ground water, or the air. This evaluation progresses through a series of assessments, leading to NPL placement or non-CERCLA status (Chart 3).

The first step, a Preliminary Assessment (PA) uses readily available information to determine whether emergency action is called for, additional investigation is needed, or the site is not eligible for CERCLA-funded action. Over 60% of EPA's inventory of sites has received PAs as a result of the Agency's process for evaluating potential site problems.

Chart 3

Pre-Remedial Process May Lead to NPL Placement

- The process of discovering and evaluating Superfund sites goes through a series of phases that may lead to placement on the NPL
- The pre-remedial process has resulted in the placement of 1,224 sites on the NPL, and the determination that 10,069 sites do not qualify for Fund-financed CERCLA remedial actions (Called "Non-CERCLA" sites)
- Differences between phases and the number of Non-CERCLA sites are a result of evaluations that are underway or pending for 19,932 sites
- Sites that are not placed on the NPL become the responsibility of the States and others.



If the assessment reveals a serious problem, the lead agency performs an SI to determine if there is any immediate danger to persons living or working nearby. The site inspection process actually consists of two steps: a Screening and then a Listing Site Inspection. This information is then used to determine if the site warrants inclusion on the NPL. Over 10,000 sites have been investigated and evaluated to determine if the problems they posed were serious enough to merit Superfund action. As of July 1989, 1,224 final and proposed sites were identified by EPA as national priorities and thereby eligible for Federally funded response (Chart 4).

C. Listing on the NPL

EPA has a ranking system for determining which sites are eligible for inclusion on the NPL, called the Hazard Ranking System (HRS). This screening tool is designed to take into account a standard set of factors related to risks from potential or actual migration of substances through ground water, surface water, and air. HRS scores range from 0 to 100. Sites scoring 28.5 and above on the current HRS are eligible for the NPL.

D. Implementing the Remedy

Once the national priority of a site has been determined, an investigation of the extent of the contamination and an analysis of the range of alternative remedial actions is conducted. Both EPA and the State can act as the lead or support agency in these remedial activities. The first stage of remedial response, called the Remedial Investigation/Feasibility Study, involves an examination of site data to identify alternatives for remediation. The lead agency for the cleanup then compares the advantages and disadvantages of each option. If the State is not the lead agency for response, it has the opportunity for review and comment as prescribed in Subpart F of the NCP. Once a preferred approach is chosen, a recommendation for action is made to the Assistant Administrator for Solid Waste and Emergency Response and a Record of Decision (ROD) is signed. The remedy must now be designed in detail and constructed, otherwise known as RD/RA. The last Fund-financed step of the remedial action is to ensure that the remedy is operational and functional which generally takes place within one year. For remedies involving ground or surface water restoration, the operational and functional phase may last up to 10 years or until the level of protectiveness prescribed in the ROD is achieved, whichever occurs first. The States are responsible for the activities after this operation and functional period and all subsequent operation and maintenance (O&M) required at NPL sites.

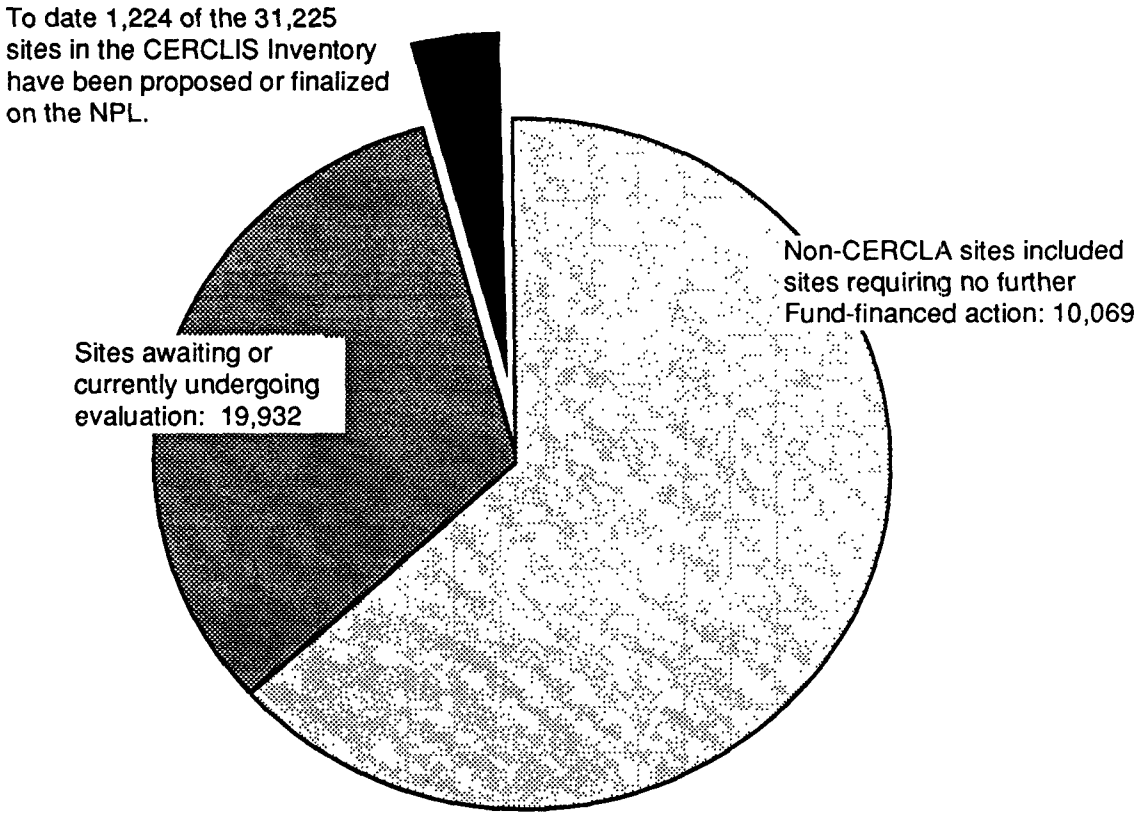
E. Initiating a Removal

When hazardous wastes present an imminent hazard of explosion, air or water pollution or other emergency that would pose an immediate short-term threat to human health, EPA has the authority to intervene with a "removal" action. In many cases, removal actions involve removing contaminants from the problem site and transporting them to waste disposal sites in compliance with RCRA. Removal actions may be taken at any time during the response process whether or not the site is included on the NPL, based on factors such as: exposure to human and animal populations or food chains; contamination of drinking water supplies; threat of fire or explosion, availability of Federal or State mechanisms to respond to the release; and other situations that may threaten public health, welfare or the environment. If contamination remains at the site following the removal, a more detailed analysis of the contamination may result in further response action.

F. Pursuing Enforcement

Throughout the response process, efforts are made to find individuals or companies responsible for the contamination and compel them to conduct or pay for the cleanup.

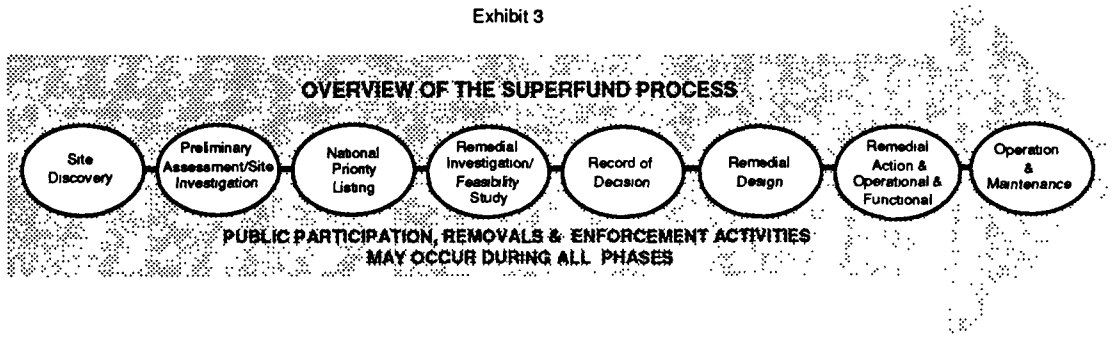
Chart 4
Sites Placed on the NPL Represent The Most Significant Sites Identified in the CERCLIS Inventory



- Approximately 4% of the sites in CERCLIS have been listed on the NPL
- EPA utilizes Trust Fund monies for remedial activities only at NPL sites
- Cleanup funds for non-NPL sites are the responsibility of States and others
- Trust Fund monies are used for emergency removal activities at both NPL and non-NPL sites
- There have been 27 sites delisted from the NPL through FY 89.

States can participate in Federal-lead enforcement actions under Section 121(f) of CERCLA. Under Section 106, EPA can issue administrative orders to compel a Potentially Responsible Party (PRP) to clean up a site where there may be an imminent and substantial threat to human health or the environment. Under Section 107, EPA may also use Superfund money for site cleanup and then recover the costs from PRPs through the courts. Under CERCLA, as amended, the courts can hold any PRP liable for complete cleanup costs. A summary of the entire response process is depicted in Exhibit 3.

Exhibit 3



III. STATE INVOLVEMENT IN SITE-SPECIFIC RESPONSE

A. States' Role in Pre-Remedial and Remedial Response

EPA is authorized under CERCLA Section 104(d)(1) to transfer Federal funds to States to undertake CERCLA response activities through a Cooperative Agreement. Exhibit 4 illustrates obligations to States over time through such Cooperative Agreements. Under this agreement, the State can serve as the lead agency for planning and implementing the response action at a particular site. For State-lead, Fund-financed actions, the Cooperative Agreement is also used by EPA to obtain the required States' cost-share and CERCLA Section 104 assurances. In a Federal-lead response, EPA is the lead agency with the appropriate State agency providing a support role. For Federal-lead, Fund-financed remedial actions, a Superfund State Contract is the mechanism used by EPA to obtain these assurances. Regardless of the lead agency designation, CERCLA requires State involvement in pre-remedial and remedial response activities. To meet the requirements of CERCLA and strengthen the EPA-State partnership, Subpart F of the NCP spells out the procedures for EPA and the State in conducting and coordinating response actions, whether such actions are directed by EPA or the State.

1. Pre-Remedial Accomplishments

States and Federal agencies have evaluated and ranked thousands of potential hazardous waste sites which have been reported, not as emergencies, but as long-term threats to the environment through PAs and SIs. States lead pre-remedial activities under the authority provided in Sections 104(b) and (d) of CERCLA. For the period FY 80-FY 89, State-lead PAs totalled over 17,000 and State-lead SIs totalled over 3,000. Charts 5 and 6 illustrate these cumulatively and the annual State-lead accomplishments for

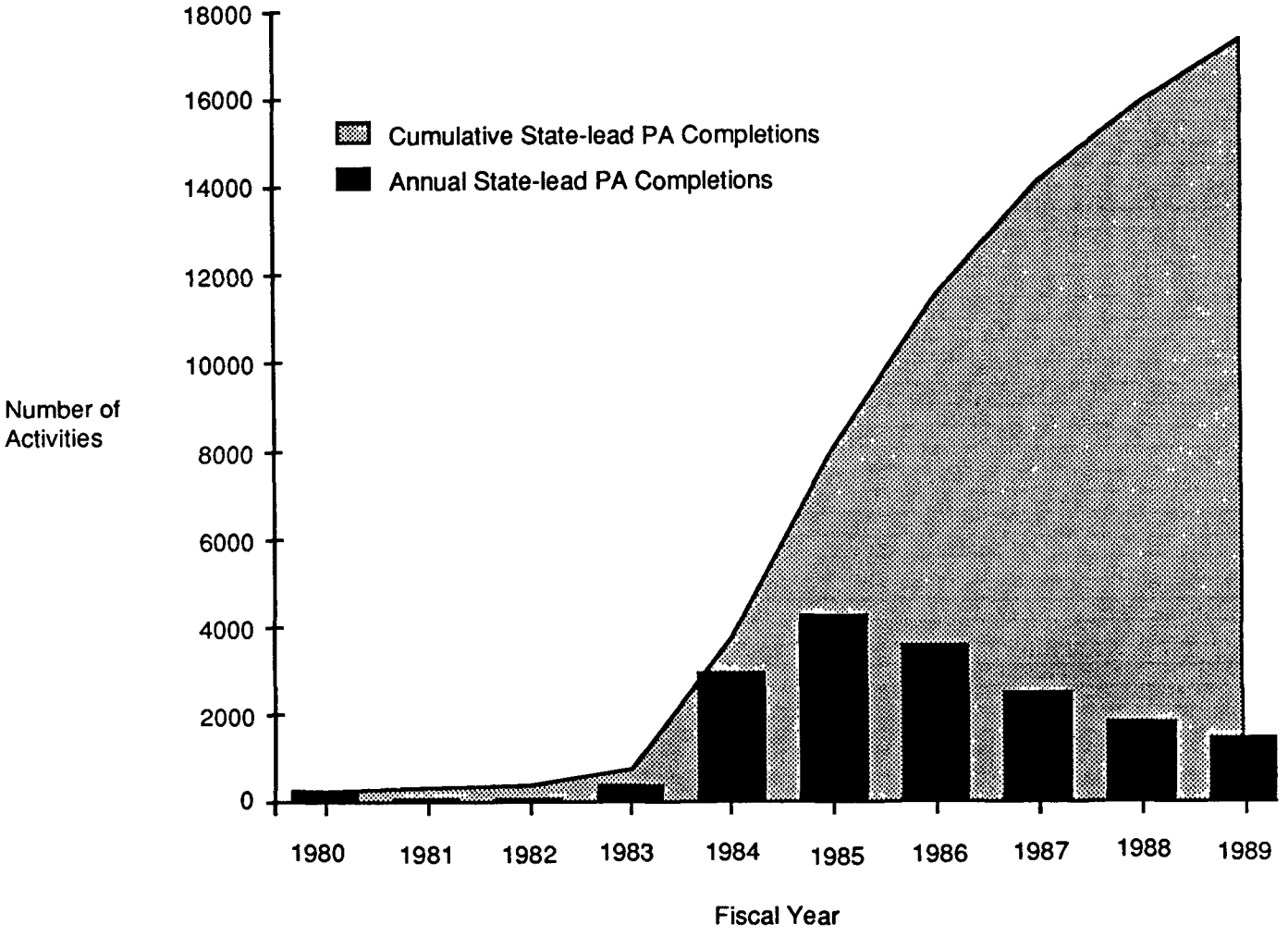
Exhibit 4

Obligations to States by Regions Through Cooperative Agreements from FY81 - FY89

Region	1981	1982	1983	1984	1985	1986	1987	1988	1989	Total
1	2,305,600	6,460,763	5,482,382	2,081,088	1,609,742	1,292,092	1,058,116	3,352,341	2,266,819	25,908,943
2	0	7,222,100	5,710,595	10,707,201	5,654,862	3,007,578	35,772,380	43,608,365	16,938,435	128,621,516
3	0	0	0	993,764	1,702,792	0	485,220	635,210	792,699	4,609,685
4	0	4,411,569	26,776	534,516	2,198,080	54,000	24,636	16,600,000	50,153	23,899,730
5	786,000	753,844	4,077,283	1,767,300	2,869,554	312,938	1,230,624	35,050,902	31,242,031	78,090,476
6	44,700	02,220,611	1,204,741	5,844,451	1,971,356	372,906	559,854	27,145,597	35,172,412	74,491,928
7	0	130,000	0	35,000	0	0	835,000	511,089	362,895	1,918,684
8	95,000	218,444	1,350,245	361,827	1,581,602	125,484	288,041	13,042,166	861,826	17,829,635
9	0	0	2,237,731	6,860,184	1,931,297	44,609	623,267	1,033,647	1,569,479	14,395,214
10	0	0	1,357,751	911,302	1,111,177	660,566	40,800	2,284,472	-370,586	5,995,482
Total ($)	3,231,300	21,417,331	21,447,504	30,096,633	20,630,462	5,870173	40,917,938	143,263,789	88,886,163	375,761,293

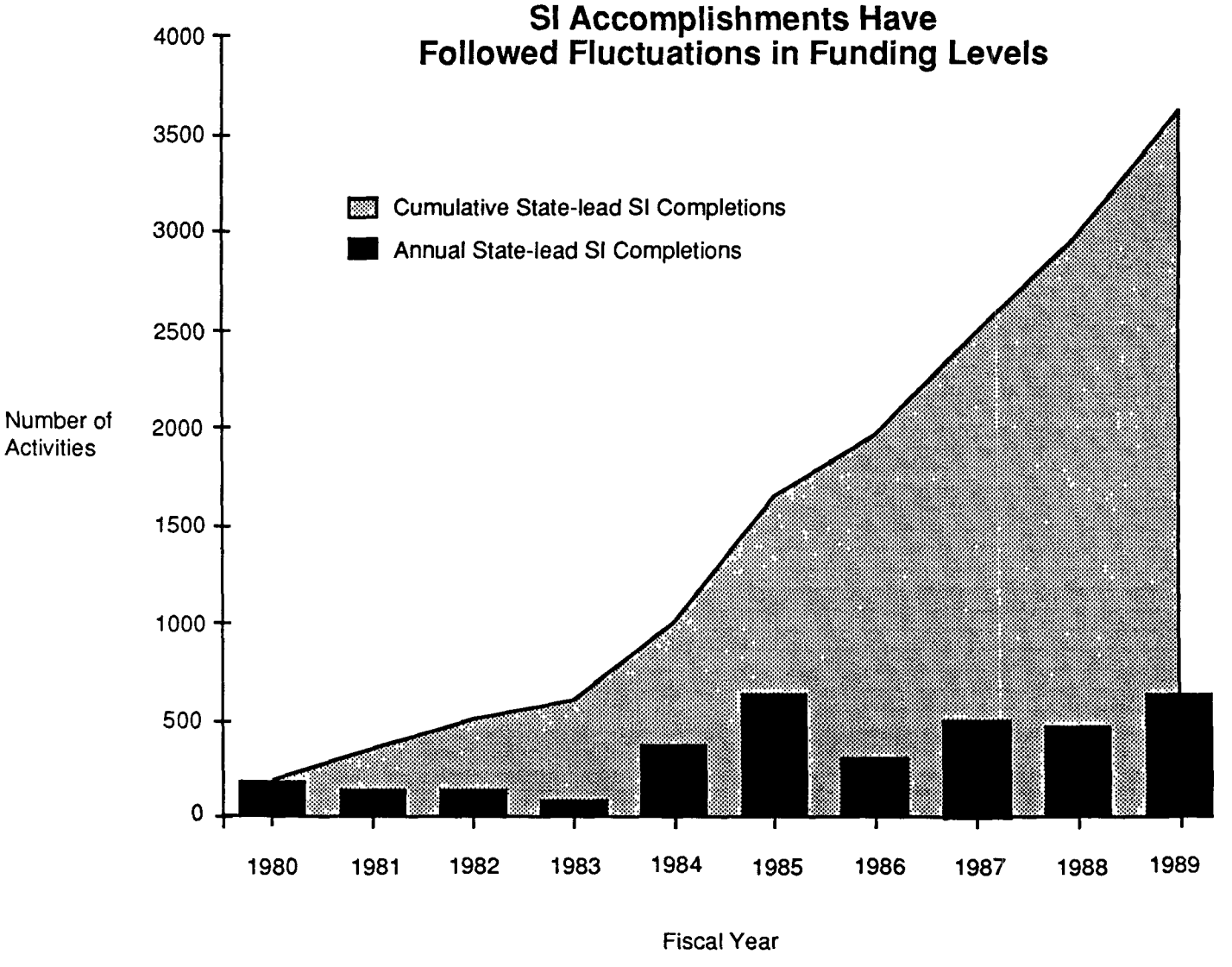
Note: These data were collected from CERCLIS and reflect all obligations to States through Cooperative Agreements. Financial data for CERCLIS is entered from the Financial Management System (FMS). In FY 89, the Integrated Financial Management System replaced FMS. However, the transfer of financial data from IFMS to CERCLIS for FY 89 underestimates the actual obligations to States because of difficulties in sorting data between the two systems.

Chart 5
Significant Progress in Conducting PAs Leaves Fewer Sites to Address



- For the years FY 80 - FY 83, many RIs were later coded as PAs or SIs in CERCLIS
- The proportion of sites in CERCLIS with completed PAs grew from 22% in FY 80 to 60% in FY 89
- States have assumed lead responsibility for completing approximately 17,300 PAs from FY 80 to FY 89 of the 19,854 completed nationwide
- States assumed an increasing role in the conduct of PAs after receiving funding under RCRA Section 3012; States led 244 PAs in FY 80 and peaked at 4,271 in FY 85.

Chart 6
SI Accomplishments Have Followed Fluctuations in Funding Levels



- For the years FY 80 - FY 83, many RIs were later coded as PAs or SIs in CERCLIS
- Incremental changes in the number of SIs completed are a result of the following factors:
  - RCRA Section 3012 which authorized funds for pre-remedial activities in 1982 when many SIs were started; by FY 84-85 these SIs were completed
  - Funds for response were limited during CERCLA reauthorization, resulting in fewer completions in FY 86
- Over 3,000 State-lead SIs have contributed to the evaluation process leading to NPL assessment.

PAs and SIs respectively. After FY 83, there is a significant increase in State involvement in these activities resulting from increases in funding levels. This involvement in pre-remedial activities is important for evaluating whether sites merit further response. Those sites that require further response are placed on the NPL and are thereby eligible for remedial funding. The following section describes State involvement in remedial activities following NPL placement.

2. Remedial State Accomplishments

Each NPL site presents a unique set of problems and circumstances that must be addressed by EPA and the States. Developing a workable, permanent solution for hazardous waste sites requires attention at each stage of the remedial process: RI/FS, RD and RA. The design and construction of the remedy can be managed or overseen by EPA or the States. From FY 80 through FY 89, States have completed a substantial number of these remedial activities (Chart 7). Because these actions are intended to stop, or substantially reduce, over the long term a release or threatened release, remedial activities often take more than one fiscal year to complete. Fluctuations in the magnitude of State-lead completions need to be considered in the context of the type and duration of the individual remedies being implemented. This report does not attempt to comment on the duration or quality of State- verses EPA-lead remedial activities. While the number of completed State-lead remedial activities has appeared cyclical, the number of ongoing activities has appeared to grow over time (Chart 8). The increases in ongoing RI/FSs, RDs and RAs by States suggest a strong commitment toward long-term cleanup activities. State contributions to CERCLA activity targets represent further evidence of their commitment to the remedial program.

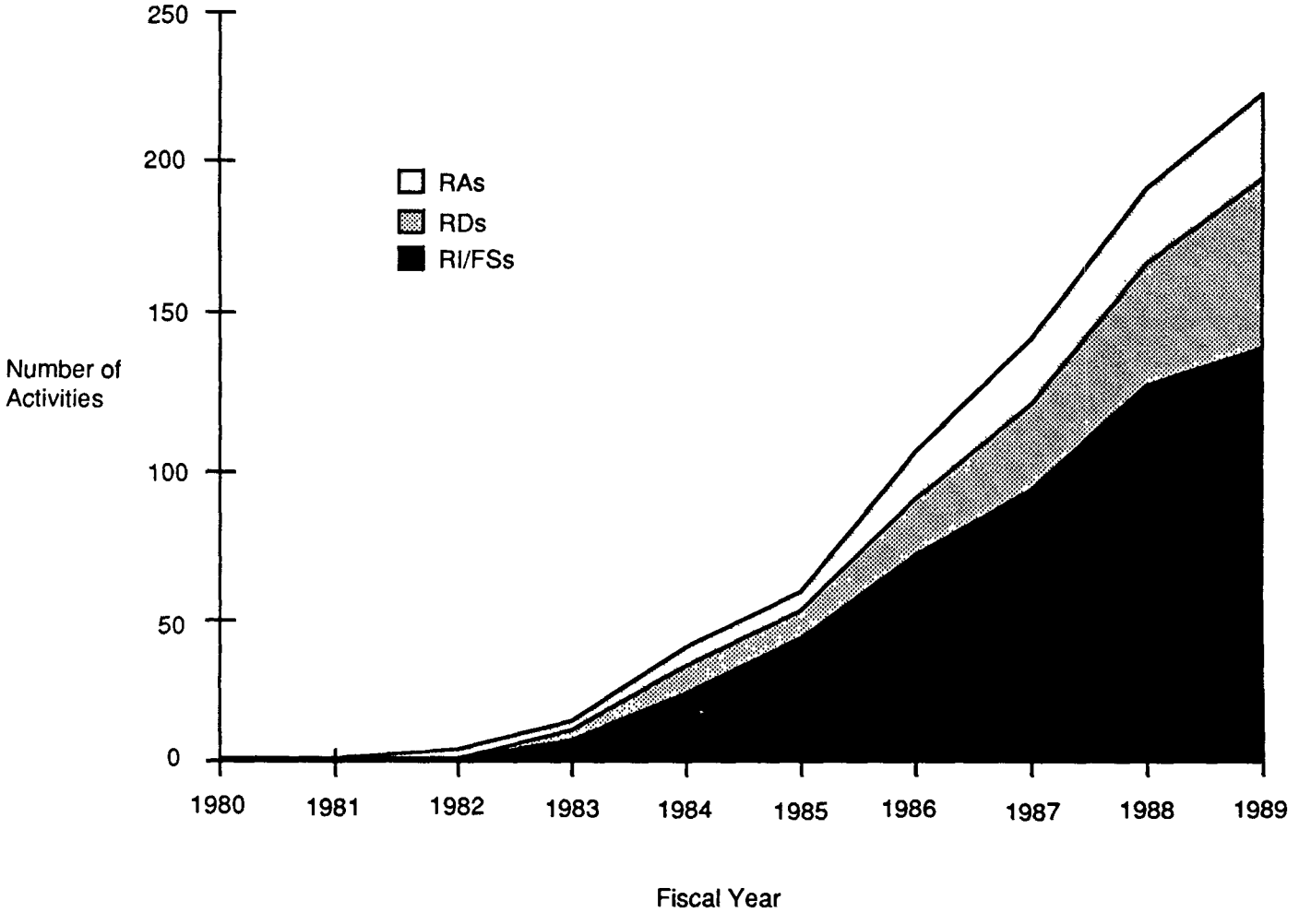
Participation of States in the effort to meet the statutory requirements for RA starts is important as both Federal- and State-lead sites can be counted toward the RA start goals set forth in Section 116(e) of CERCLA, as amended. These goals include 175 new RA starts by October 1989 and an additional 200 RA starts by October 1991. States have contributed 18 sites to the 1989 goal, for a total of 178 sites, surpassing the goal of 175 RA starts by three sites (Chart 9). Not only are States contributing to remedial activities, but they are also involved in the removal and enforcement processes described below.

B. States' Role in Removals

All time-critical removal actions are Federal-lead, as are long-term actions where response is more extensive than anticipated or exceeds State capabilities. States may take the lead for removals requiring more than six months of planning at both NPL and non-NPL sites. Long-term removals appropriate for State-lead are those actions where initiation of cleanup or stabilization efforts may be delayed for approximately six months or more from the time the threat is discovered.

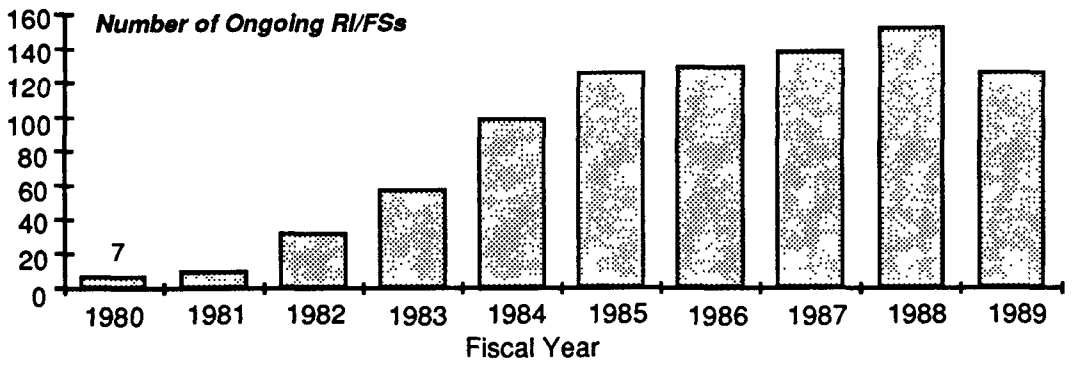
States were not authorized to conduct State-lead removals via Cooperative Agreements until July 1987. To date, State experience in leading long-term actions has been limited to initial remedial measures under the remedial program and removals that can be planned in advance. There were two State-lead removals started in FY 88 and completed in FY 89 and one removal started in FY 89. Relative to the magnitude of State participation in remedial planning and implementation, State-lead involvement in removals has been minimal. Recent State comments received by the Agency on the NCP (40 CFR 300) indicate a strong desire for involvement; the Agency is therefore reviewing the opportunities for further State involvement in several aspects of the removal program.

Chart 7
The Total Number of Completed State-lead Remedial Activities Has Increased

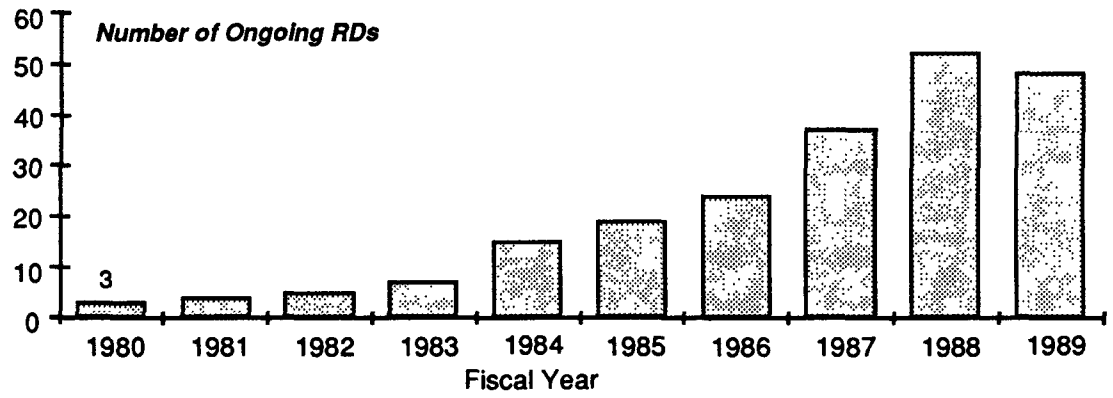


- States accomplished 140 RI/FSs, 54 RDs and 30 RAs from FY 80 to FY 89
- As additional sites flow through the response process, the need for remedial activities increases
- Decreases in remedial completions in FY 85, FY 87 and FY 89 are due to less activity during CERCLA reauthorization and delays in remedial action completions
- RI/FS completions may not indicate that a ROD has been signed.

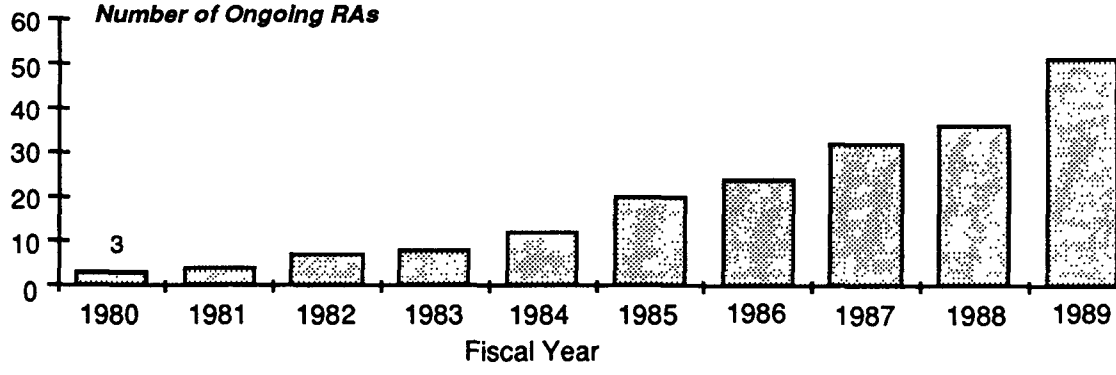
Chart 8
State-lead Ongoing Remedial Activities



- State resources are being used for a significant number of ongoing RI/FS activities.

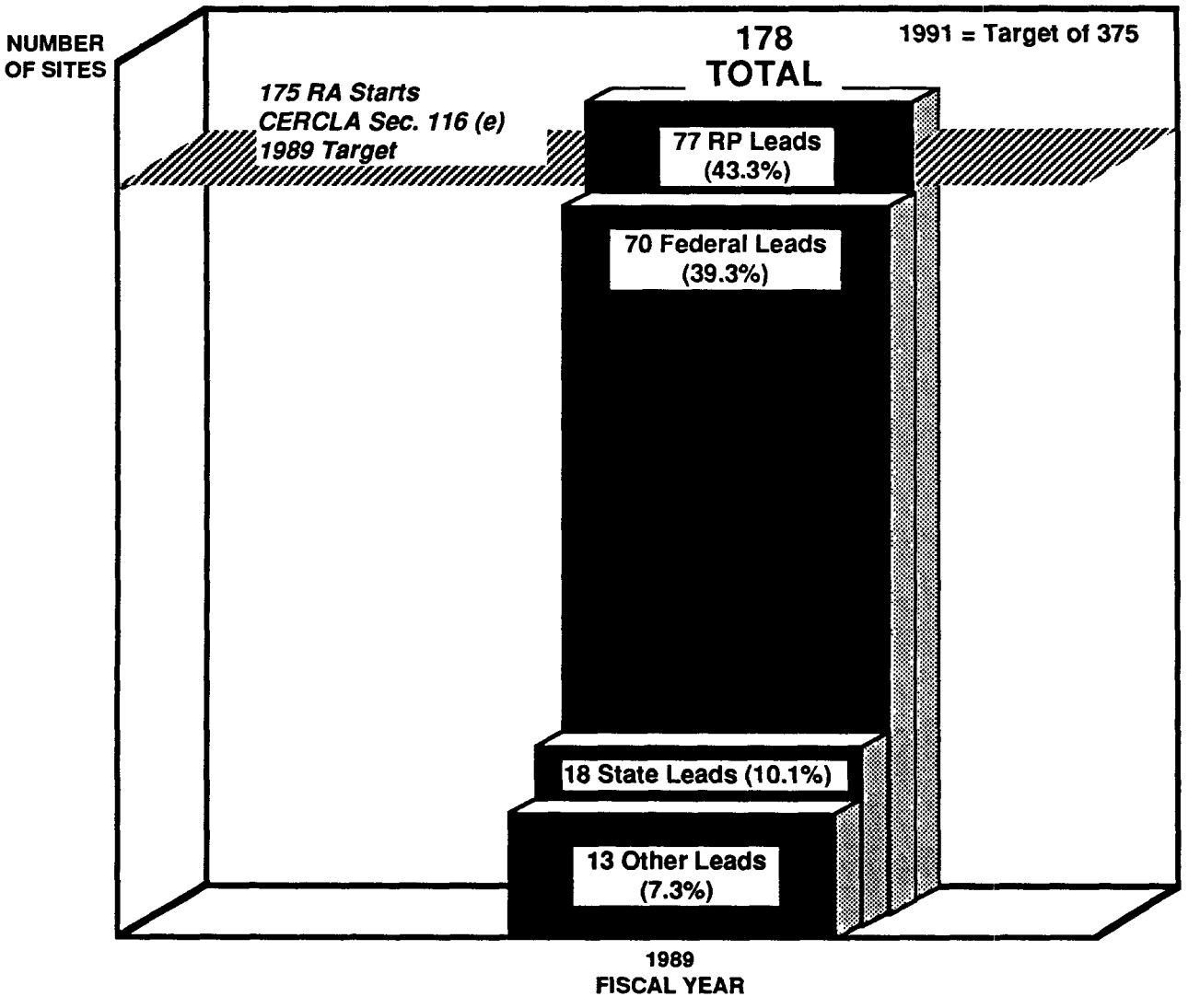


- State resources are being used for a significant number of ongoing RDs.



- States have shown continuous progress in ongoing RA participation assuming lead responsibility for 51 ongoing RAs in FY 89.

Chart 9
State-lead Sites Contribute to CERCLA RA Start Goals



- The CERCLA Section 116(e) remedial action (RA) start mandate includes goals of 175 new RA starts by October 1989 and an additional 200 by October 1991
- EPA and States have been involved in co-implementation of CERCLA and working towards these targets
- States have contributed 18 sites to the 1989 goal
- Other leads here include: Responsible Party-lead under State order with EPA oversight, Mixed Funding between Responsible Party and EPA, and Federal Facility-lead. ("Commencement of Post-SARA Remedial Actions," EPA Report 10/17/89).

C. States' Role in Enforcement

Enforcement efforts are important to the Superfund program as the cost of cleaning up all the serious hazardous sites in the country far exceeds Superfund's resources. CERCLA Section 121(f) requires EPA to provide for meaningful and substantial State involvement in Superfund, and at a minimum in remedial activities; EPA has extended this involvement to enforcement actions as well. To maximize State and EPA resources for response, EPA's intent is to compel greater PRP participation in site cleanup. In the Superfund 90-Day Study, one of EPA's stated goals was to "mobilize private party resources to conduct cleanup up front, rather than using the Fund and recovering costs through litigation later." EPA is encouraging consistent State CERCLA enforcement actions to enhance PRP confidence in accepting State remedies and settlements. In addition, by focusing on the successful strategies of States that are willing and able to meet CERCLA's site-specific or program requirements, EPA may provide an incentive for other States to expand their programs.

States may be involved in enforcement activities including: PRP searches and notification, PRP negotiations for the RI/FS and RD/RA, issuance of administrative or judicial actions to compel PRP response actions, as well as settlements and cost recovery. States may also prepare the ROD at State-lead enforcement sites. By providing EPA with an opportunity to concur on the remedy and adopt the ROD, States document EPA concurrence, thereby providing further incentive for PRP acceptance of remedy decisions. To date, States have primarily been involved in negotiations and administrative orders.

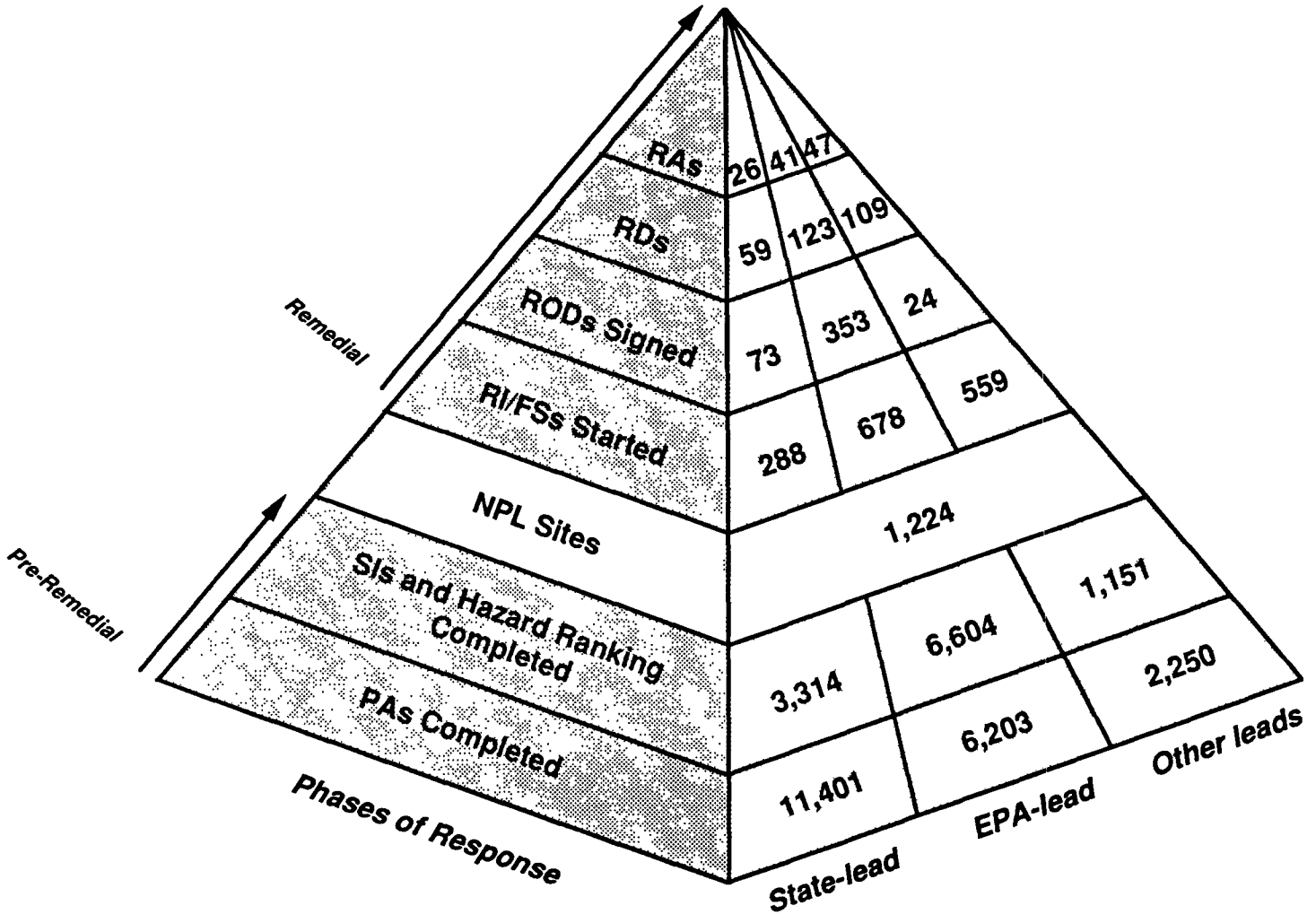
D. State's Role in Operation and Maintenance

States cost share with EPA for the remedial action and operational and functional (O&F) costs as with other phases of response. O&F can last up to one year for all remedies except ground water and surface water restoration for which O&F may last up to ten years, and is like operation and maintenance (O&M) in its long-term nature. Under Section 300.435(f)(2) of the NCP and Section 104(c)(6) of CERCLA, O&M begins immediately after the O&F stage of the remedial action and is entirely the responsibility of the States. States must assure EPA in a response agreement that they will assume responsibility for all O&M for the expected life of each remedial action as determined by EPA and the State. Therefore, at NPL sites, States are responsible for 10 percent of the remedial action costs through O&F. The long-term nature of O&M will require a continuing commitment by the States for years following the completion of remedial action activities.

E. Site Accomplishments

States have been involved in all phases of response and thus have contributed to the implementation of CERCLA, as amended. The strides in cleanup activity throughout the nation are measured by the number of sites at which action has been taken and by the number of these activities. EPA, States and others have shown accomplished signed RODs at 450 sites; RD completions at 291 sites; and RA completions at 114 sites. For the pre-remedial stages, States have completed PAs at almost twice as many sites as EPA and States have completed SIs and Hazard Ranking at about half as many sites as EPA. Twenty-seven sites have been delisted from the NPL to date. Chart 10 illustrates these site accomplishments.

Chart 10
Site Accomplishments by States, EPA, and Others



- Since 1980, together the States, EPA and others have completed remedial actions in 35 States
  - Currently, there are 26 State-lead sites, 41 EPA-lead sites, and 47 sites with remedial actions led by others including Responsible Parties, other Federal Agencies, Coast Guard, etc.
- EPA and State-lead activities have resulted in the following proportions of signed RODs
  - 52% of all EPA-lead and 25% of all State-lead RI/FSs led to signed RODs
- Removal and enforcement activities can occur at any time and can be concurrent with remedial activities
- The number of sites delisted to date is 27; 114 have completed RAs and await delisting.

IV. STATE INVOLVEMENT IN THE CORE PROGRAM

In response to the statutory mandate for State involvement, EPA developed the Core Program Cooperative Agreement (CPCA) concept. The Core Program enables EPA to fund non-site-specific activities that are essential for States to administer their Superfund program and to play an active role in site-specific cleanups. EPA's initial policy has been to provide up to $250,000 per State for such management and administrative support activities. CPCAs are negotiated between EPA Regional offices and their respective States, and are funded annually.

The actual amount awarded has been based on factors such as a State's Superfund objectives, the number of CERCLIS and NPL sites in the State not otherwise addressed under other funding sources, and whether a State program comparable to EPA's Superfund program is in place. In FY 87, three States were chosen to pilot the Core Program. EPA developed program guidance based upon the lessons learned during this pilot stage. In FY 88, all States were eligible for Core Program funding, and 37 States applied for CPCAs. Today 41 States, Puerto Rico, and the Navajo Nation are participating in the Core Program with total funding at over $11 million (Chart 11).

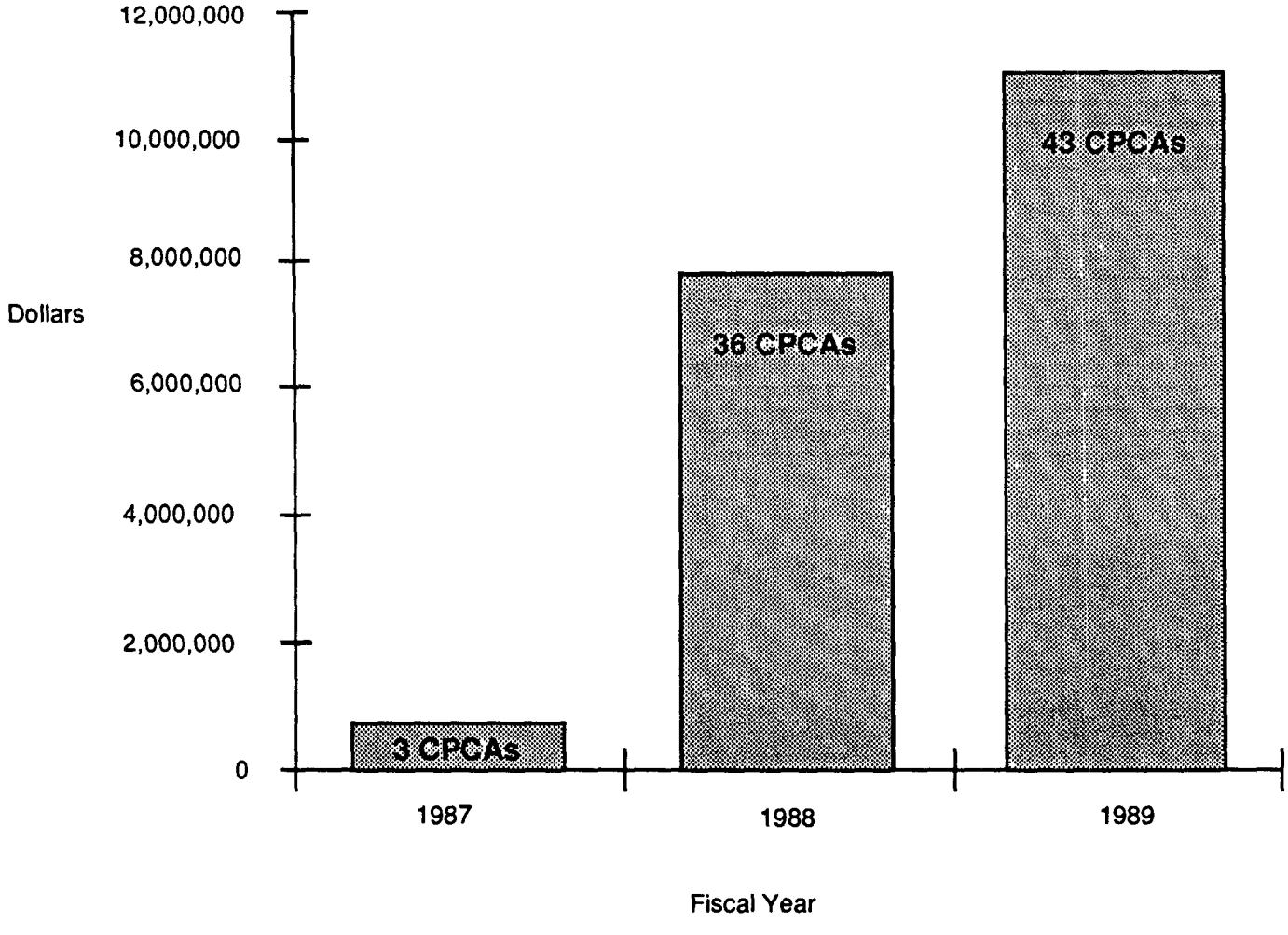
EPA recently conducted a review of the Core Program to identify ways in which CPCAs have enhanced State ability to participate in all phases of the Superfund program, and to provide EPA Headquarters with a management tool for effectively overseeing the Core Program. Information gathered during this review identified the following findings:

- The Core Program is a success at promoting State involvement and should be continued.
- Core Program activities vary across Regions, and across States within a single Region.
- CPCA application and award processes were complicated during the first year, but did not inhibit States participation in the Core Program.
- Increased Core Program funding would enhance State ability to participate in all phases of Superfund response.

The Core Program has created several primary benefits for participating States including:

- In many States, CPCAs provide the majority of funding for non site-specific activity. The limited State resources dedicated to these functions in the past are now being used for more technical, site-specific activities.
- Core Program funds enhance the abilities of States with more mature Superfund programs, and provide other States with the support necessary to establish a hazardous substance response program.
- CPCAs relieve technical site project managers from the burden of administrative activities, enabling an appropriate specialization of functions.

Chart 11
The Core Program Continues to Expand



Over time, additional States have become involved in the Core Program; hence more Core Program Cooperative Agreements (CPCAs) have been awarded:

- During FY 87 $842,471 dollars were obligated to 3 States through the Core Program
- During FY 88 $7,445,303 dollars were obligated to 36 States through the Core Program
- During FY 89 $11,167,142 dollars were obligated to 43 States, Puerto Rico, and the Navajo Nation from Core Program funds.

Source: Hazardous Site Control Division/ State and Local Coordination Branch

The Core Program has also created several additional benefits for participating States. These benefits include:

- States have been able to hire and train staff. Resources for new positions and training were not available to many States previously.
- States have been able to develop financial and procurement systems to manage site work more effectively.
- Knowledge gained by staff trained to address Superfund sites can also be used by States to conduct response activities at non-NPL sites.

Data from this review were used to revise the regulatory requirements for the Core Program contained at 40 CFR Part 35 Subpart O. Enhancements and clarification on the Core Program provided in this rule are intended to foster State programs and the level of State involvement in site-specific response in the future.

V. SUMMARY

As the Superfund program continues to address the hazardous waste issue nationwide, States are assuming an increasingly active role in confronting issues at Superfund sites. In responding to the recommendations of the Superfund 90-Day Study, EPA and States will be working together to establish short- and long-term strategies for State involvement, and to continue co-implementation of CERCLA throughout all phases of response. This report will be used by EPA as a management tool and updated periodically.

APPENDIX A

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